GEOS INSTITUTE

August 8, 2018

Attn: Kathleen Brubaker, Supervisory Fish and Wildlife Biologist
US Fish & Wildlife Service
1655 Heindon Rd, Arcata, CA 95521

Re: Green Diamond Habitat Conservation Plan (HCP)

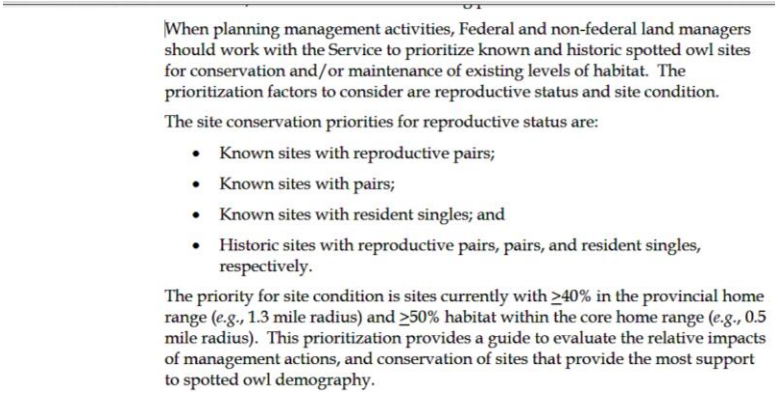
Please accept these comments on the Green Diamond HCP proposed for 357,412 acres of Douglas-fir and coast redwood forests within Del Norte and Humboldt Counties, northwestern California, that provide the Northern Spotted Owl (NSO) with nesting, roosting, foraging (NRF) and juvenile dispersal habitat, along with habitat for other imperiled or rare species. The revised critical habitat determination (USFWS 2011[1]), and decision by the Secretary of Interior at the time, excluded Green Diamond lands from NSO critical habitat designation based, in part, on the notion that an HCP would contribute to recovery of the owl (and offer co-benefits to other species) within the Coast Redwood province. Thus, the Fish & Wildlife, as directed by NEPA and the owl recovery plan, is required to take a "hard look" at the information presented by Green Diamond to determine if the companies' actions are sufficient for avoiding an owl jeopardy decision and whether Green Diamond has taken the necessary precautionary measures to minimize and mitigate impacts to the full extent practical. From my review of the HCP, I find elements of the plan deficient and likely to contribute to ongoing regional and local NSO declines.

Deficiencies Related to HCP Habitat Provisions - As a science-based organization, and having personally served on the 2006-2008 owl recovery team, I am concerned that the Green Diamond HCP does not go far enough in providing habitat protections for the owl, does not minimize and adequately mitigate impacts to the full extent practical its logging practices, and the approach is based on untested assumptions that rely on shifting current protections from unoccupied sites to only the high-quality occupied sites (with numerous stipulations on how much is actually protected). Certainly, the company can do more to contribute to recovery of the owl by maintaining all historic nest sites, particularly in light of the alarming range wide declines in owl populations, including on Green Diamond lands (Dugger et al. 2016[2]). If the companies' Barred Owl eradication efforts prove successful, unoccupied sites may be repopulated by spotted owls and can therefore contribute to the recovery objective of stable population trends and continued maintenance and recruitment of spotted owl habitat (Recovery Criterion 1 and 3, USFWS 2011). Green Diamond provides only limited assurances that after six years of monitoring its logging activities in owl habitat it will enter into "adaptive

[1]USFWS. 2011. Revised recovery plan for the northern spotted owl (*Strix occidentalis caurina*). Region 1 USFWS, Portland, OR.
[2]Dugger, K.M. et al. 2016. The effects of habitat, climate, and Barred Owls on long-term demography of Northern Spotted Owls. Condor 118: 57–116

management" with the Service if the approach is ineffective at stemming NSO declines. That is a risky and unclear proposition given that if populations continue to decline, declines may not be linear or reversible in time.

Green Diamond also proposes to limit harvest within 0.5 miles radius surrounding owl activity centers (with numerous stipulations). The Service needs to examine the efficacy of this narrow buffer in relation to Recovery Action 10. Specifically, the revised owl recovery plan (USFWS 2011, III-44-45) states:



When planning management activities, Federal and non-federal land managers should work with the Service to prioritize known and historic spotted owl sites for conservation and/or maintenance of existing levels of habitat. The prioritization factors to consider are reproductive status and site condition.

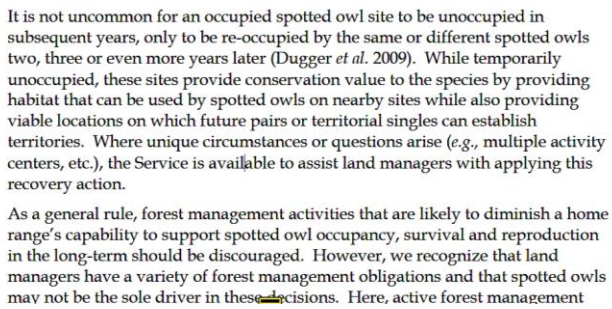
The site conservation priorities for reproductive status are:

- Known sites with reproductive pairs;
- Known sites with pairs;
- Known sites with resident singles; and
- Historic sites with reproductive pairs, pairs, and resident singles, respectively.

The priority for site condition is sites currently with ≥40% in the provincial home range (*e.g.*, 1.3 mile radius) and ≥50% habitat within the core home range (*e.g.*, 0.5 mile radius). This prioritization provides a guide to evaluate the relative impacts of management actions, and conservation of sites that provide the most support to spotted owl demography.

It is doubtful that a 0.5-mile buffer can achieve recovery objectives when, in fact, the Service calls for a much larger buffer using the provincial home range (1.3-mile radius).

With regard to unoccupied sites, the recovery plan (USFWS 2011, III-45) states:



It is not uncommon for an occupied spotted owl site to be unoccupied in subsequent years, only to be re-occupied by the same or different spotted owls two, three or even more years later (Dugger *et al.* 2009). While temporarily unoccupied, these sites provide conservation value to the species by providing habitat that can be used by spotted owls on nearby sites while also providing viable locations on which future pairs or territorial singles can establish territories. Where unique circumstances or questions arise (*e.g.*, multiple activity centers, etc.), the Service is available to assist land managers with applying this recovery action.

As a general rule, forest management activities that are likely to diminish a home range's capability to support spotted owl occupancy, survival and reproduction in the long-term should be discouraged. However, we recognize that land managers have a variety of forest management obligations and that spotted owls may not be the sole driver in these decisions. Here, active forest management

Thus, it appears that Green Diamond's HCP violates Recovery Action 10 by proposing to log unoccupied sites and by providing insufficient buffering (e.g., out to the provincial home range radius of 1.3 mi) from logging. Notably, the NSO provincial home range is likely to be influenced by Barred Owls, differences in forest types (redwood vs. Douglas-fir), habitat quality, and prey availability. However, NRF habitat is so loosely defined (e.g., young stands 31-45 years) and, without any specific structural features (other than vaguely worded – "sufficient nesting and roosting habitat") identified, it is impossible to tell whether key structural features differ between forest types and will be sufficient to build NSO populations back up. Thus, the HCP uses a one-size-fits all approach to NRF that does not account for variability in site selection. If the habitat model is wrong, or Barred Owl pressures intensify, it may be too late to reverse course on areas already logged under the HCP provisions of incidental take and the rather vague NRF and adaptive management "triggers" that may or may not result in mitigating timber harvest impacts.

Deficiencies Related to NEPA (inadequacy of alternatives) - The Service also needs to take a hard look at the limited range of alternatives proposed by Green Diamond. For instance, the alternatives include: (1) an NSO-only HCP with late-seral static reserves; (2) an NSO-only HCP with uneven-aged management; and (3) a multispecies plan with or without Barred Owl removal. This includes an unproven and risky "dynamically-located" set of DCAs (no less than 44) with minimal buffers (86 acres with stipulations on how much is actually protected) vs. the static reserve design without Barred Owl removal. An additional alternative that would better comply with NEPA and the recovery plan would be to include Barred Owl removal in all alternatives in conjunction with stronger NSO habitat protections by including: (1) all historic nest sites regardless of occupancy; (2) owl provincial home ranges (1.3-mile radius, instead of the 0.5-mile buffer); and (3) juvenile dispersal habitat that is functionally equivalent to NRF habitat (Sovern et al. 2015[3]). The Service should negotiate with Green Diamond to include such an alternative along with Barred Owl removal given the precarious state of the NSO and the risky nature of removing protections for historic sites that could be reoccupied if Barred Owl removal continues to be successful (e.g., Diller et al. 2016 cited in the HCP noted an increase in NSO occupancy with Barred Owl removal).

Other Concerns – the multi-species HCP includes estimated fisher populations (n=335) and estimated tree vole populations (n=11,833) in the planning area with no supporting data or citations. Where did these numbers come from and can they be validated or were they inferred from habitat? If the later, a discussion of uncertainties in estimating populations from habitat only is needed to ensure the public that these population numbers have a sound scientific basis to compare with estimated losses from logging. Additionally, many of the mitigation actions are what the company is already doing. The HCP should include measures above the baseline status-quo management.

The discussion about GHG emissions is woefully inadequate and implies that the companies logging emissions are insignificant in the larger scope of emissions from other sources and the unproven notion that all forests they manage are currently acting as a sink. This cannot be determined without the benefit of a life-cycle analysis that includes in-boundary and out-of-boundary emissions in relation to net sequestration and long-term carbon storage lost to logging, transport, and manufacture of wood products.

Closing Remarks - the HCP is deficient overall for NSO and other species it intends to provide conservation benefits. Proposed logging is likely to increase fragmentation, adding to cumulative effects from Barred Owls (see Dugger et al. 2016) and potentially isolated metapopulations of NSO that will accelerate declines. The lack of attention to juvenile dispersal habitat and historic nest sites, which could be reoccupied via successful Barred Owl suppression, along with narrow and varied buffers and unproven "reserve" designs, creates a high degree of uncertainty and unacceptable risks to NSO. We urge Fish & Wildlife Service to request an alternative with improved habitat protections and attention to the details missing in the HCP regarding NSO habitat on Green Diamond lands and more definitive "fail safe" mechanisms/triggers for acting before declines accelerate. This is especially important as the Service evaluates the petition to uplist NSO to endangered given range-wide declines.

Sincerely,

Dominick A. DellaSala, Ph. D
Chief Scientist

[3]Sovern, S.G., et al. 2015. Roosting habitat use and selection by northern spotted owls during natal dispersal. The Journal of Wildlife Management 79:254-262.